

■ UP to [Atomic Bomb: Decision](#)

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Szilard Petition, First Version, July 3, 1945

Source: U.S. National Archives, Record Group 77, Records of the Chief of Engineers, Manhattan Engineer District, Harrison-Bundy File, folder #76.

The first version of Leo Szilard's petition, dated July 3, 1945, was more strongly worded than the final version. It was also more specific in identifying the moral issues that he believed were involved.

Rejecting the pretense that the targets would be *military*, the petition called atomic bombs "a means for the ruthless annihilation of cities."

The bombing of cities, it continued, "had been condemned by American public opinion only a few years ago when applied by the Germans to the cities of England. Our use of atomic bombs in this war would carry the world a long way further on this path of ruthlessness."

The petition concluded by requesting the President "to rule that the United States shall not, in the present phase of the war, resort to the use of atomic bombs."

The July 3 version received 59 signatures at the Chicago Metallurgical Laboratory, but it was not submitted to the President in this form. Szilard sought to broaden support, and rewrote it into the final version of July 17.

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THIS PAGE REGRADED UNCLASSIFIED
Order Sec Army
720564

July 3, 1945

A PETITION TO THE PRESIDENT OF THE UNITED STATES

Discoveries of which the people of the United States are not aware may affect the welfare of this nation in the near future. The liberation of atomic power which has been achieved places atomic bombs in the hands of the Army. It places in your hands, as Commander-in-Chief, the fateful decision whether or not to sanction the use of such bombs in the present phase of the war against Japan.

We, the undersigned scientists, have been working in the field of atomic power for a number of years. Until recently we have had to reckon with the possibility that the United States might be attacked by atomic bombs during this war and that her only defense might lie in a counterattack by the same means. Today with this danger averted we feel impelled to say what follows:

The war has to be brought speedily to a successful conclusion and the destruction of Japanese cities by means of atomic bombs may very well be an effective method of warfare. We feel, however, that such an attack on Japan could not be justified in the present circumstances. We believe that the United States ought not to resort to the use of atomic bombs in the present phase of the war, at least not unless the terms which will be imposed upon Japan after the war are publicly announced and subsequently Japan is given an opportunity to surrender.

If such public announcement gave assurance to the Japanese that they could look forward to a life devoted to peaceful pursuits in their homeland and if Japan still refused to surrender, our nation would then be faced with a situation which might require a re-examination of her position with respect to the use of atomic bombs in the war.

Atomic bombs are primarily a means for the ruthless annihilation of cities. Once they were introduced as an instrument of war it would be difficult to resist for long the temptation of putting them to such use.

The last few years show a marked tendency toward increasing ruthlessness. At present our Air Forces, striking at the Japanese cities, are using the same methods of warfare which were condemned by American public opinion only a few years ago when applied by the Germans to the cities of England. Our use of atomic bombs in this war would carry the world a long way further on this path of ruthlessness.

Atomic power will provide the nations with new means of destruction. The atomic bombs at our disposal represent only the first step in this direction and there is almost no limit to the destructive power which will become available in the course of this development. Thus a nation which sets the precedent of using these newly liberated forces of nature for purposes of destruction may have to bear the responsibility of opening the door to an era of devastation on an unimaginable scale.

In view of the foregoing, we, the undersigned, respectfully petition that you exercise your power as Commander-in-Chief to rule that the United States shall not, in the present phase of the war, resort to the use of atomic bombs.

Leo Szilard and 58 co-signers

[Source for number of signers of July 3 petition: Szilard to Frank Oppenheimer, July 23, 1945, Robert Oppenheimer Papers, Library of Congress, Washington D.C.]

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[Gene Dannen / gene@dannen.com](mailto:gene@dannen.com)

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Szilard petition, cover letter, July 4, 1945

Source: U.S. National Archives, Record Group 77, Records of the Chief of Engineers, Manhattan Engineer District, Harrison-Bundy File, folder #76.

Szilard sent copies of the July 3, 1945 version of his petition to colleagues at Oak Ridge and Los Alamos. In this cover letter, which accompanied the petition, he discussed the need for scientists to take a moral stand on the use of the bomb.

Germans who failed to protest the immoral actions of the Nazis, he pointed out, were widely condemned for their silence. If they, as Manhattan Project scientists, failed to speak out, they would have far less excuse than the people of Germany.

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Order Sec Army By TAG per
720564

DECLASSIFIED
DOD Dir. 5200.9, Sept. 27, 1958
NWD by _____ date 3 Nov 61

July 4, 1945

Dear

Inclosed is the text of a petition which will be submitted to the President of the United States. As you will see, this petition is based on purely moral considerations.

It may very well be that the decision of the President whether or not to use atomic bombs in the war against Japan will largely be based on considerations of expediency. On the basis of expediency, many arguments could be put forward both for and against our use of atomic bombs against Japan. Such arguments could be considered only within the framework of a thorough analysis of the situation which will face the United States after this war and it was felt that no useful purpose would be served by considering arguments of expediency in a short petition.

However small the chance might be that our petition may influence the course of events, I personally feel that it would be a matter of importance if a large number of scientists who have worked in this field went clearly and unmistakably on record as to their opposition

on moral grounds to the use of these bombs in the present phase of the war.

Many of us are inclined to say that individual Germans share the guilt for the acts which Germany committed during this war because they did not raise their voices in protest against these acts. Their defense that their protest would have been of no avail hardly seems acceptable even though these Germans could not have protested without running risks to life and liberty. We are in a position to raise our voices without incurring any such risks even though we might incur the displeasure of some of those who are at present in charge of controlling the work on "atomic power".

The fact that the people of the United States are unaware of the choice which faces us increases our responsibility in this matter since those who have worked on "atomic power" represent a sample of the population and they alone are in a position to form an opinion and declare their stand.

Anyone who might wish to go on record by signing the petition ought to have an opportunity to do so and, therefore, it would be appreciated if you could give every member of your group an opportunity for signing.

Leo Szilard

P.S.-- Anyone who wants to sign the petition ought to sign both attached copies and ought to read not only the petition but also this covering letter.

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A PETITION TO THE PRESIDENT OF THE UNITED STATES

Source: U.S. National Archives, Record Group 77, Records of the Chief of Engineers, Manhattan Engineer District, Harrison-Bundy File, folder #76.

On July 17, 1945, Leo Szilard and 69 co-signers at the Manhattan Project "Metallurgical Laboratory" in Chicago petitioned the President of the United States.

July 17, 1945

A PETITION TO THE PRESIDENT OF THE UNITED STATES

Discoveries of which the people of the United States are not aware may affect the welfare of this nation in the near future. The liberation of atomic power which has been achieved places atomic bombs in the hands of the Army. It places in your hands, as Commander-in-Chief, the fateful decision whether or not to sanction the use of such bombs in the present phase of the war against Japan.

We, the undersigned scientists, have been working in the field of atomic power. Until recently, we have had to fear that the United States might be attacked by atomic bombs during this war and that her only defense might lie in a counterattack by the same means. Today, with the defeat of Germany, this danger is averted and we feel impelled to say what follows:

The war has to be brought speedily to a successful conclusion and attacks by atomic bombs may very well be an effective method of warfare. We feel, however, that such attacks on Japan could not be justified, at least not unless the terms which will be imposed after the war on Japan were made public in detail and Japan were given an opportunity to surrender.

If such public announcement gave assurance to the Japanese that they could look forward to a life devoted to peaceful pursuits in their homeland and if Japan still refused to surrender our nation might then, in certain circumstances, find itself forced to resort to the use of atomic bombs. Such a step, however, ought not to be made at any time without seriously considering the moral responsibilities which are involved.

The development of atomic power will provide the nations with new means of destruction. The atomic bombs at our disposal represent only the first step in this direction, and there is almost no limit to the destructive power which will become available in the course of their future development. Thus a nation which sets the precedent of using these newly liberated forces of nature for purposes of destruction may have to bear the responsibility of opening the door to an era of devastation on an unimaginable scale.

If after this war a situation is allowed to develop in the world which permits rival powers to be in uncontrolled possession of these new means of destruction, the cities of the United States as well as the cities of other nations will be in continuous danger of sudden annihilation. All the resources of the United States, moral and material, may have to be mobilized to prevent the advent of such a world situation. Its prevention is at present the solemn responsibility of the United States -- singled out by virtue of her lead in the field of atomic power.

The added material strength which this lead gives to the United States brings with it the obligation of restraint and if we were to violate this obligation our moral position would be weakened in the eyes of the world and in our own eyes. It would then be more difficult for us to live up to our responsibility of bringing the unloosened forces of destruction under control.

In view of the foregoing, we, the undersigned, respectfully petition: first, that you exercise your power as Commander-in-Chief, to rule that the United States shall not resort to the use of atomic bombs in this war unless the terms which will be imposed upon Japan have been made public in detail and Japan knowing these terms has refused to surrender; second, that in such an event the question whether or not to use atomic bombs be decided by you in light of the considerations presented in this petition as well as all the other moral responsibilities which are involved.

Leo Szilard and 69 co-signers

Signers listed in alphabetical order, with position identifications added:

1. DAVID S. ANTHONY, Associate Chemist
2. LARNED B. ASPREY, Junior Chemist, S.E.D.
3. WALTER BARTKY, Assistant Director
4. AUSTIN M. BRUES, Director, Biology Division
5. MARY BURKE, Research Assistant
6. ALBERT CAHN, JR., Junior Physicist
7. GEORGE R. CARLSON, Research Assistant-Physics
8. KENNETH STEWART COLE, Principal Bio-Physicist
9. ETHALINE HARTGE CORTELYOU, Junior Chemist
10. JOHN CRAWFORD, Physicist
11. MARY M. DAILEY, Research Assistant
12. MIRIAM P. FINKEL, Associate Biologist
13. FRANK G. FOOTE, Metallurgist
14. HORACE OWEN FRANCE, Associate Biologist
15. MARK S. FRED, Research Associate-Chemistry
16. SHERMAN FRIED, Chemist
17. FRANCIS LEE FRIEDMAN, Physicist
18. MELVIN S. FRIEDMAN, Associate Chemist
19. MILDRED C. GINSBERG, Computer
20. NORMAN GOLDSTEIN, Junior Physicist
21. SHEFFIELD GORDON, Associate Chemist
22. WALTER J. GRUNDHAUSER, Research Assistant
23. CHARLES W. HAGEN, Research Assistant

24. DAVID B. HALL, position not identified
25. DAVID L. HILL, Associate Physicist, Argonne
26. JOHN PERRY HOWE, JR., Associate Division Director, Chemistry
27. EARL K. HYDE, Associate Chemist
28. JASPER B. JEFFRIES, Junior Physicist, Junior Chemist
29. WILLIAM KARUSH, Associate Physicist
30. TRUMAN P. KOHMAN, Chemist-Research
31. HERBERT E. KUBITSCHKE, Junior Physicist
32. ALEXANDER LANGSDORF, JR., Research Associate
33. RALPH E. LAPP, Assistant to Division Director
34. LAWRENCE B. MAGNUSSON, Junior Chemist
35. ROBERT JOSEPH MAURER, Physicist
36. NORMAN FREDERICK MODINE, Research Assistant
37. GEORGE S. MONK, Physicist
38. ROBERT JAMES MOON, Physicist
39. MARIETTA CATHERINE MOORE, Technician
40. ROBERT SANDERSON MULLIKEN, Coordinator of Information
41. J. J. NICKSON, [Medical Doctor, Biology Division]
42. WILLIAM PENROD NORRIS, Associate Biochemist
43. PAUL RADELL O'CONNOR, Junior Chemist
44. LEO ARTHUR OHLINGER, Senior Engineer
45. ALFRED PFANSTIEHL, Junior Physicist
46. ROBERT LEROY PLATZMAN, Chemist
47. C. LADD PROSSER, Biologist
48. ROBERT LAMBURN PURBRICK, Junior Physicist
49. WILFRED RALL, Research Assistant-Physics
50. MARGARET H. RAND, Research Assistant, Health Section
51. WILLIAM RUBINSON, Chemist
52. B. ROSWELL RUSSELL, position not identified
53. GEORGE ALAN SACHER, Associate Biologist
54. FRANCIS R. SHONKA, Physicist
54. ERIC L. SIMMONS, Associate Biologist, Health Group
56. JOHN A. SIMPSON, JR., Physicist
57. ELLIS P. STEINBERG, Junior Chemist
58. D. C. STEWART, S/SGT S.E.D.
59. GEORGE SVIHLA, position not identified [Health Group]
60. MARGUERITE N. SWIFT, Associate Physiologist, Health Group
61. LEO SZILARD, Chief Physicist
62. RALPH E. TELFORD, position not identified
63. JOSEPH D. TERESI, Associate Chemist
64. ALBERT WATTENBERG, Physicist
65. KATHERINE WAY, Research Assistant
66. EDGAR FRANCIS WESTRUM, JR., Chemist
67. EUGENE PAUL WIGNER, Physicist
68. ERNEST J. WILKINS, JR., Associate Physicist

69. HOYLANDE YOUNG, Senior Chemist

70. WILLIAM F. H. ZACHARIASEN, Consultant

Source note: The position identifications for the signers are based on two undated lists, both titled "July 17, 1945," in the same file as the petition in the National Archives. From internal evidence, one probably was prepared in late 1945 and the other in late 1946. Signers were categorized as either "Important" or "Not Important," and dates of termination from project employment were listed in many cases. It is reasonable to conclude that the lists were prepared and used for the purpose of administrative retaliation against the petition signers.

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[Gene Dannen / gene@dannen.com](mailto:gene@dannen.com)

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Groves Seeks Evidence Against Szilard, July 4, 1945

Source: U.S. National Archives, Record Group 77, Records of the Office of the Chief of Engineers, Manhattan Engineer District, decimal files, "201 (Szilard, Leo)."

As Szilard circulated his petition, General Groves sought ways to take action against him. On July 4, 1945, Groves wrote to Frederick Lindemann, Lord Cherwell.

Lindemann, who was Winston Churchill's science advisor, had known of Szilard's ideas on the nuclear chain reaction long before the discovery of fission. As head of Oxford's Clarendon Laboratory, Lindemann had been Szilard's employer from 1935-1938.

Groves inquired about a meeting Szilard had requested with Lindemann when Lindemann visited Washington D.C. in 1943. If Szilard had mentioned secret information to Lindemann during this meeting, Groves could have charged Szilard with violating the Espionage Act.

Lindemann's reply, and his attached account of the meeting, also are reproduced here in full.

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THIS DOCUMENT CONSISTS OF 1 PAGE(S)
NO. 3 OF 3 COPIES, SERIES A

4 July 1945

The Right Honorable
The Lord Cherwell
War Cabinet Offices
London, England

Dear Lord Cherwell,

I wonder if it would be taxing your memory unduly if I were to ask you to write me briefly the subjects of your discussion in your meeting with Dr. Leo Szilard in May of 1943, when you were in this country.

Dr. Szilard, as you will recall, worked in the Clarendon Laboratory during the years 1935 to 1938.

Frankly, Dr. Szilard has not, in our opinion, evidenced wholehearted cooperation in the maintenance of security.

In order to prevent any unjustified action, I am examining all of the facts which can be collected on Dr. Szilard and I am therefore

seeking your assistance.

I am looking forward to the day when I will be able to see you again.

Sincerely yours,

L. R. GROVES
Major General, USA

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TOP SECRET

PAYMASTER GENERAL

GREAT GEORGE STREET,
S.W.1.

12th July 1945

My Dear General,

Thank you for your letter. I was very glad to hear from you again and to have a talk with Major Traynor who looked after me so well last autumn.

I am sorry to hear that Szilard has been indiscreet. As you may wish to attach it to your file I have put my recollections of our conversation on a separate sheet. As you know he worked in my laboratory at Oxford and always had rather a bee in his bonnet about the awful implications of these matters. I cannot say that I really took his conversation very seriously, but I think the attached statement gives a fair account of its general tenour.

I think from all accounts that success in your great project is on the verge of being achieved. I hope I may add my congratulations on the unequalled effort in which you have played such a remarkable part. If I could manage it, I should very much like to come over to America again before the year is out and if so I should look forward to seeing you again. But perhaps you will be able to get away yourself and come over here for your long promised visit before then.

With kindest regards believe me
yours very sincerely
Cherwell

P.S. I hope your daughter's tennis is making good progress.

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TOP SECRET

PAYMASTER GENERAL

GREAT GEORGE STREET,
S.W.1

CONVERSATION WITH DR. SZILARD, MAY 1943, WASHINGTON D.C.

When I spoke to Szilard in Washington in 1943, he was, so far as I can remember, mainly concerned with a topic which has inflamed so many scientists' minds, namely what sort of arrangements could be made to prevent an arms race with all the disastrous consequences to which this would lead. I do not recall that he offered any solution, although when we had discussed the same matter in Oxford before the war he had advocated some agreement between scientists not to lend themselves to any application of nuclear chain reactions to lethal purposes.

My impression is that his security was good to the point of brusqueness. He did, I believe, complain that compartmentalism was carried to undue lengths in America, but on the other hand, when I asked him about some point - I forget what - deriving from our work in Oxford he replied that he was not at liberty to discuss it as he had passed into the employment of the American Government. We did not, so far as I can recollect, have any further conversation on technical processes, but he kept harking back to his general anxiety about the future of the world.

Cherwell

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Leo Szilard, Interview: President Truman Did Not Understand

An authorized web-reprint of the full text of
"President Truman Did Not Understand,"
U.S. News & World Report, August 15, 1960, pages 68-71.

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President Truman Did Not Understand

Dr. Leo Szilard, 62, is a Hungarian-born physicist who helped persuade President Roosevelt to launch the A-bomb project and who had a major share in it. In 1945, however, he was a key figure among the scientists opposing use of the bomb. Later he turned to biophysics, and this year was awarded the Einstein medal for "outstanding achievement in natural sciences."

At NEW YORK

Q Dr. Szilard, what was your attitude in 1945 toward the question of dropping the atomic bomb on Japan?

A I opposed it with all my power, but I'm afraid not as effectively as I should have wished.

Q Did any other scientists feel the same way you did?

A Very many other scientists felt this way. This is particularly true of Oak Ridge and the Metallurgical Laboratory of the University of Chicago. I don't know how the scientists felt at Los Alamos.

Q At the Oak Ridge and Chicago branches of the A-bomb project, was there any division of opinion?

A I'll say this: Almost without exception, all the creative physicists had misgivings about the use of the bomb. I would not say the same about the chemists. The biologists felt very much as the physicists did.

Q When did your misgivings first arise?

A Well, I started to worry about the use of the bomb in the spring of '45. But misgivings about our way of conducting ourselves arose in Chicago when we first learned that we were using incendiary bombs on a large scale against the cities of Japan.

This, of course, was none of our responsibility. There was nothing we could do about it, but I do remember that my colleagues in the project were disturbed about it.

Q Did you have any knowledge of Secretary of War Stimson's concern at this time on the question of using the bomb?

A I knew that Mr. Stimson was a thoughtful man who gave the bomb serious consideration. He was one of the most thoughtful members of the Truman cabinet. However, I certainly have to take exception to the article Stimson wrote after Hiroshima in "Harper's Magazine." He wrote that a "demonstration" of the A-bomb was impossible because we had only two bombs. Had we staged a "demonstration" both bombs might have been duds and then we would have lost face.

Now, this argument is clearly invalid. It is quite true that at the time of Hiroshima we had only two bombs, but it would not have been necessary to wait for very long before we would have had several more.

Q Were you aware then of the attitude of Under Secretary of the Navy Ralph Bard or of the memorandum by Lewis L. Strauss?

A No.

Q So, in effect, there was no concerted opposition to military use of the bomb?

A No, there was none. You see, it would have been impossible for me to go and talk with Lewis Strauss because of the secrecy rules.

Q Do you feel that President Truman and those immediately below him gave full and conscientious study to all the alternatives to use of the atomic bomb?

A I do not think they did. They thought only in terms of our having to end the war by military means.

I don't think Japan would have surrendered unconditionally without the use of force. But there was no need to demand the unconditional surrender of Japan. If we had offered Japan the kind of peace treaty which we actually gave her, we could have had a negotiated peace.

Q In retrospect, do you think your views got a full hearing?

A Let me answer this by describing in detail just what kind of hearing my views got.

In March, 1945, I prepared a memorandum which was meant to be presented to President Roosevelt. This memorandum warned that the use of the bomb against the cities of Japan would start an atomic-arms race with Russia, and it raised the question whether avoiding such an arms race might not be more important than the short-term goal of knocking Japan out of the war. I was not certain that this memorandum would reach the President if I sent it "through channels." Therefore, I asked to see Mrs. Roosevelt, and I intended to transmit my memorandum through her - in a sealed envelope - to the President.

When Mrs. Roosevelt set the date for the interview which I had requested, I went to see Arthur H. Compton, who was in charge of the Chicago project. I rather expected him to object to the contents of my memorandum, and I was therefore much relieved when he told me that he hoped I would get the memorandum into the hands of the President and that it would receive the attention of the President. I then went back to my own office, and I hadn't been there for more than five minutes when there was a knock at the door and there stood Dr. Norman Hilberry. "We have just heard over the radio that President Roosevelt died," he said.

For a while I was at a loss to know how to bring my memorandum to President Truman's attention. I knew many people who knew Roosevelt, but President Truman didn't seem to move in the same circles. Then it occurred to me that we must have several men from Kansas City in the project and that some of these might know how to reach Truman.

When I was asked to go to the White House and see Matt Connelly, Truman's Appointments Secretary, I suggested to Walter Bartky, associate director of our project, that he accompany me. Mr. Connelly read my memorandum with attention. "I can see that this is serious business," he said. "Frankly, at first I was a little suspicious because this appointment came through Kansas City." He told us that the President had an inkling of what our business might be and that he wanted us to go to Spartanburg and see James Byrnes. We didn't know why we were sent to see Byrnes, since at that point Byrnes held no Government position. We were quite willing to go, of course, and we asked for permission to take [atomic scientist] H. C. Urey along. On May 27 we took the night train to Spartanburg.

Q What happened then?

A Having read the memorandum, the first thing that Byrnes told us was that General Groves [head of the Manhattan District, which developed the A-bomb] had informed him that Russia had no uranium. Of course, if Russia did not have any uranium then she would not be able to participate in an atomic-arms race, but to me this seemed to be an exceedingly unlikely assumption. It was conceivable that Russia might have no high-grade uranium-ore deposits - deposits of pitchblende. The only known

pitchblende deposit within the control of Russia was the deposit in Czechoslovakia, and this was not believed to be very extensive. But I found it difficult to believe that within the vast expanse of Russia there should be no low-grade uranium-ore deposits which could be used to obtain uranium for the production of bombs.

When I saw Mr. Byrnes I was very much concerned about the fact that no governmental policy had been developed on the issue of how to cope with the problem that the bomb would pose to the world. I raised the question of whether it might be wise to gain time for developing such a governmental policy by postponing the testing of the bomb. It seemed to me that once the bomb had been tested its existence could not be kept secret for long. Byrnes did not think that postponing the test was a good idea, and, in retrospect, I am inclined to agree with him. In retrospect, I don't think that postponing the test would have solved our problem.

Byrnes was concerned about Russia's having taken over Poland, Rumania and Hungary, and so was I. Byrnes thought that the possession of the bomb by America would render the Russians more manageable in Europe. I failed to see how sitting on a stockpile of bombs, which in the circumstances we could not possibly use, would have this effect, and I thought it even conceivable that it would have just the opposite effect.

When I returned to Chicago and learned that Byrnes had been appointed Secretary of State, I concluded that the arguments that I regarded as important would receive no consideration. I didn't realize at that time that Secretary Stimson would play a major role in the final decision and that he might be able to understand my point of view better than Mr. Byrnes had done.

In Chicago I collaborated in the writing of the so-called Franck Report. This report was addressed to Secretary Stimson, but none of those who participated in the writing of the report, including Prof. James Franck, had an opportunity to see Mr. Stimson.

In the meantime I drafted a petition to the President which did not go into any considerations of expediency but opposed, on purely moral grounds, the use of atomic bombs against the cities of Japan. This petition was signed by about 60 members of the Chicago project. Some of those who signed insisted that the petition be transmitted to the President through "official channels." To this I reluctantly agreed. I was, at this point, mainly concerned that the members of the project had an opportunity to go on record on this issue, and I didn't think that the petition would be likely to have an effect on the course of events. The petition was sent to the President through official channels, and I should not be too surprised if it were discovered one of these days that it hadn't ever reached him.

Q Did you think then that the Russians probably were working on the bomb?

A I had no idea of this. The question before us was: Should we think in terms of America's having a long-term monopoly of the bomb after the war, or will Russia have the bomb before long also? I had no doubt that we would start an atomic-arms race if we used the bomb.

Q Would a demonstration have been feasible?

A It is easy to see, at least in retrospect, how an effective demonstration could have been staged. We

could have communicated with Japan through regular diplomatic channels - say, through Switzerland - and explained to the Japanese that we didn't want to kill anybody, and therefore proposed that one city - say, Hiroshima - be evacuated. Then one single bomber would come and drop one single bomb.

But again, I don't believe this staging a demonstration was the real issue, and in a sense it is just as immoral to force a sudden ending of a war by threatening violence as by using violence. My point is that violence would not have been necessary if we had been willing to negotiate. After all, Japan was suing for peace.

Q Did you know that fully at the time?

A No. All I knew at that time was that we had won the war, that Japan had not the ghost of a chance of winning it and that she must know this. It did not matter just how far gone the Japanese were; if they knew they would not win the war, if they knew they would lose it in the end, that is all that matters.

THE MAJOR MISTAKE

Q Have your views on this subject changed at all since 1945?

A No, except that I can say much more clearly today what I was thinking at that time than I was able to say it at that time. Today I would put the whole emphasis on the mistake of insisting on unconditional surrender. Today I would say that the confusion arose from considering the fake alternatives of either having to invade Japan or of having to use the bomb against her cities.

Q Would most other nations, including Russia, have done the same thing we did, confronted with the same opportunity to use the bomb?

A Look, answering this question would be pure speculation. I can say this, however: By and large, governments are guided by considerations of expediency rather than by moral considerations. And this, I think, is a universal law of how governments act.

Prior to the war I had the illusion that up to a point the American Government was different. This illusion was gone after Hiroshima.

Perhaps you remember that in 1939 President Roosevelt warned the belligerents against using bombs against the inhabited cities, and this I thought was perfectly fitting and natural.

Then, during the war, without any explanation, we began to use incendiary bombs against the cities of Japan. This was disturbing to me and it was disturbing many of my friends.

Q Was that the end of the illusion?

A Yes, this was the end of the illusion. But, you see, there was still a difference between using incendiary bombs and using the new force of nature for purposes of destruction. There was still a

further step taken here - atomic energy was something new.

I thought it would be very bad to set a precedent for using atomic energy for purposes of destruction. And I think that having done so we have greatly affected the postwar history.

HOW BOMBING BOOMERANGED

Q In what way?

A I think it made it very difficult for us to take the position after the war that we wanted to get rid of atomic bombs because it would be immoral to use them against the civilian population. We lost the moral argument with which, right after the war, we might have perhaps gotten rid of the bomb.

Let me say only this much to the moral issue involved: Suppose Germany had developed two bombs before we had any bombs. And suppose Germany had dropped one bomb, say, on Rochester and the other on Buffalo, and then having run out of bombs she would have lost the war. Can anyone doubt that we would then have defined the dropping of atomic bombs on cities as a war crime, and that we would have sentenced the Germans who were guilty of this crime to death at Nuremberg and hanged them?

But, again, don't misunderstand me. The only conclusion we can draw is that governments acting in a crisis are guided by questions of expediency, and moral considerations are given very little weight, and that America is no different from any other nation in this respect.

Q How would the world of today have been different if we had not dropped the atomic bomb on Japan?

A I think, if we had not dropped the bomb on Hiroshima and instead demonstrated the bomb after the war, then, if we had really wanted to rid the world of atomic bombs, I think we could probably have done it.

Now, whether this would have led to a better world or not, I don't know. But it certainly would have been a world very different from the one we have now.

Q Do you think it would have avoided a nuclear-arms race?

A I think we could have avoided a nuclear-arms race, yes, but we might still have gotten into conflict with Russia - over other issues.

Q Would the Russians have developed the atomic and hydrogen bombs as quickly if we had not dropped the bomb? Do you think they hurried up their espionage and research after Hiroshima?

A They had no choice but to hurry up with developing their own bomb, since they would not want us to have the monopoly of the bomb.

Q Were the Russians aware of the work we were doing?

A Yes. This I did not know at the time. I would say, in retrospect, that not testing the bomb probably would not have gained us very much time.

Q Do you think that the "missile age" would have come as quickly without the atomic bomb?

A No, the long-range missile would be completely useless without a nuclear warhead, because they are too expensive as vehicles for carrying TNT.

Q What about the space age in general? Would that also have been put off into the indefinite future?

A I should think so.

Q Then was space exploration - missile, hydrogen bombs, all the rest of it - a natural outgrowth of the atomic bomb?

A I think so. But, you see, I'm in no hurry to get to Mars or Venus. I don't value the exploration of the solar system as much as maybe others do.

Q Do Americans have a guilt complex over the bomb?

A I wouldn't call it exactly a "guilt complex." But you remember perhaps John Hersey's "Hiroshima." It made a very great impression on America, but it did not in England. Why?

It was we who used the bomb and not the English. Somewhere, below the level of consciousness, we have a stake in the bomb, which the English don't have. Still, I wouldn't call it a "guilt complex."

Q Has this feeling, whatever it is, affected us in any material way?

A Great power imposes the obligation of exercising restraint, and we did not live up to this obligation. I think this affected many of the scientists in a subtle sense, and it diminished their desire to continue to work on the bomb.

Q Did Hiroshima affect our development of the hydrogen bomb?

A I should say it delayed it five years. I think, if we'd exercised restraint, many physicists would have continued to work on atomic energy after the war who did not.

Q Would a United States Government today, confronted with the same set of choices and approximately the same degree of military intelligence, reach a different decision as to using the first A-bomb?

AI think it depends on the person of the President. Truman did not understand what was involved. You can see that from the language he used. Truman announced the bombing of Hiroshima while he was at sea coming back from Potsdam, and his announcement contained the phrase - I quote from the New York "Times" of August 7, 1945: "We have spent 2 billion dollars on the greatest scientific gamble in history - and won."

To put the atomic bomb in terms of having gambled 2 billion dollars and having "won" offended my sense of proportions, and I concluded at that time that Truman did not understand at all what was involved.

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[Top of page](#)

► [UP to Atomic Bomb: Decision](#)

► [UP to Leo Szilard Home Page](#)

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Gene Dannen / danneng@peak.org

A Narrow Margin of Hope:

Leo Szilard in the Founding Days of CARA

By William Lanouette

Presented at *In Defence of Learning: The Past and the Present*, a conference at The British Academy to celebrate the 75th anniversary of the Council for Assisting Refugee Academics (CARA), 4th and 5th December 2008. Session I: The early years: The Academic Assistance Council.

Abstract

The Council for Assisting Refugee Academics began, with Hitler's rise to power in 1933, as the Academic Assistance Council (AAC), and one of the first scientists to escape the Nazis played a decisive role in creating and running the organization. Known as an "intellectual bumblebee," Leo Szilard moved constantly to help create and operate the AAC: appearing in Vienna, London, Paris, Brussels, Geneva, Manchester, Liverpool, Oxford, and Cambridge to forge a growing network for refugee aid and settlement. In 1933, Szilard collaborated with William Beveridge and Harold Laski at the LSE, compiled names of displaced scientists for the Council's Walter Adams to use in Germany, enlisted Esther Simpson to work at AAC offices in Burlington House, and volunteered there working late most nights.

In this talk I describe how Szilard's foresight and his energetic and eclectic actions helped the AAC to begin operations and to prosper in its first year. I suggest that only this outsider could have overcome cultural and academic barriers to help unite disparate benefactors in a common cause. Driving Szilard's efforts was "a narrow margin of hope" that he first gained as a child and drew on throughout his life -- later leading fellow scientists in their efforts to control the nuclear weapons they had created. His optimism, courage, and creativity are all exemplified in those early days at the AAC, and serve today as an example of how individuals can aid those in need by devising inventive techniques. Szilard's creativity and hope helped to establish vital links during the AAC's first months, fostering an institution that placed more than 2,500 refugee scholars by the outbreak of World War II.

[26 January 09]

I am honored and delighted to join CARA in celebrating its 75th anniversary.

CARA's humanitarian work began 75 years ago when Adolf Hitler's rise to power forced the physicist Leo Szilard and hundreds of other Jewish academics to flee Germany in 1933. But unlike

most, Szilard saw trouble coming years before grave events occurred, and he foresaw the wave of refugee scholars that would eventually follow. Szilard had been prescient since childhood. At the age of 10, he was shocked by *The Tragedy of Man*, an epic Hungarian poem about the end of mankind.¹ This prompted Szilard to always seek “a narrow margin of hope” and compelled him to believe he had to save the world. This attitude led to a life rich in scientific and political insight, but one also driven by keen awareness and anxieties.²

And what a life it was. Born in Budapest in 1898, Szilard fled fascism in 1919 to study in Berlin. During the 1920s in Berlin Szilard formulated in his doctoral thesis the basis for what became “information theory,” and he collaborated with Albert Einstein on many projects, including their joint patent for an electromagnetic refrigerator pump with no moving parts. Here in London in the 1930s Szilard conceived and then patented the “nuclear chain reaction,” and in New York at the end of the decade he co-designed with Enrico Fermi the world’s first nuclear reactor, then drafted the letter from Einstein to President Franklin Roosevelt that prompted the Manhattan Project. As the Project’s Chief Physicist during World War II, Szilard worked hard to beat Germany to the A-bomb. But once Hitler was defeated, Szilard worked even harder to prevent the new weapon’s use on Japan, and to forestall a nuclear arms race he predicted between the USA and USSR. In the 1940s and 1950s Szilard organized Einstein and other scientists in public efforts to outlaw nuclear weapons. He also took up molecular biology, helping to expand the field with inspired ideas that later earned others the Nobel Prize: one such beneficiary, molecular biologist Francois Jacob, called Szilard an “intellectual bumblebee.”³ In the 1960s in New York Szilard met privately with Soviet Premier Nikita Khrushchev and gained his assent to the idea of a Moscow-Washington Hotline; and in Washington he founded the first political action committee for arms control – The Council for a Livable World. Szilard also helped create the Salk Institute for Biological Studies, in La Jolla, California, fostering the goal that researchers should explore not only the mysteries of science but also the social consequences of their work. It was there that he died in 1964.

Szilard applied his purposeful ingenuity to help fellow academic refugees throughout 1933, blending creativity, luck, and pluck in a remarkable effort at what we call today “networking”.

In the first week of January 1933, Szilard called on a fellow Hungarian, the chemist Michael Polanyi, at his apartment in Berlin. Think about leaving Germany, Szilard insisted. Things will grow worse under Hitler. Much worse. But Polanyi demurred. After all, he told Szilard, Hitler’s was a minority party in the Reichstag. What trouble could that be?

Szilard urged Polanyi to accept a professorship just offered him by Manchester University. But Polanyi complained that if he moved he could not be productive for another year. Szilard urged that Polanyi at least decline in a way that allowed a change of mind. Following this advice, Polanyi wrote that his rheumatism may pose “difficulties” with Manchester’s humid climate. Next, Szilard caught a train to Budapest, where he repeated his warning to family and friends: “Hitler is a crazy, stupid man!” he said. “Everybody must flee. Under Hitler a terrible time will come!”⁴

Soon enough, it did. On 27th February the Reichstag burned, and the next day Hitler persuaded President Hindenburg to sign a decree that suspended individual and civil liberties. Again, Szilard

called on Polanyi. Again Polanyi hesitated.

After the Reichstag fire, Szilard packed two bags and kept them by the door. Then on 30th March he decided things had become "too bad." He boarded an overnight train to Vienna, and the next night that train was stopped and "non-Aryans" detained. Masking his fear with a quip, Szilard said years later: "This just goes to show that if you want to succeed in this world you don't have to be much cleverer than other people; you just have to be one day earlier...."⁵

In Vienna the first week in April, Szilard called on Michael Polanyi's brother Karl, an economist, and warned him about the coming refugee flood. Karl Polanyi suggested Szilard approach the International Student Service in Geneva, adding that he knew a charming Englishwoman who had played violin in Polanyi's string quartets until her recent move to work in Geneva. Szilard hopped a train to Geneva and met Miss Esther Simpson in her office at the World Alliance of YMCAs, where she was personal secretary to the director. She agreeably typed several letters for Szilard – including one to his mentor and friend Albert Einstein about their plans to meet soon in Oxford.⁶

Back in Vienna, Szilard met by chance his friend the economist Jacob Marschak from Heidelberg University, and through him the economists Karl Schlesinger and Gottfried Kuhnwald. Then an economic adviser to the Austrian government, Kuhnwald predicted that when the refugee flood hit, the French would pray for the victims, the British would organize their rescue, and the Americans would pay for it.⁷

Marschak also introduced Szilard to Ignatz Jastrow, who suggested approaching William Beveridge, Director of the London School of Economics (LSE). Beveridge was then visiting Jastrow to collaborate on the history of market prices and happened to be staying at Szilard's hotel. Beveridge had already heard about academic dismissals and the LSE planned to hire one or two refugees. A few days before, Beveridge had met in Vienna with fellow economists Lionel Robbins and Ludwig von Mises, where they discussed aiding academic refugees.⁸ So, when Beveridge met with Schlesinger, Marschak, and Szilard for tea at the hotel he was ready for Szilard's urging to create a refugee settlement committee in England. Szilard recalled that Beveridge "...suggested that I come to London and that I occasionally prod him on this, and that if I prodded him long enough and frequently enough he thought he would do it."⁹ A few days later, Szilard appeared in London. And prod he did.

Here he settled into the Imperial Hotel on Russell Square. Szilard, like Archimedes, enjoyed long soaks in the bathtub each morning to dream up fresh ideas. Then, he set out on his mission. On 22nd April Szilard wrote Beveridge, saying he had come to London to meet Prof. Niels Bohr, the Danish Nobel laureate in physics, "to discuss with him the whole situation." Often walking down Southampton Row to the LSE, Szilard dropped in on Harold Laski, a noted politics professor and prominent member of the Labour Party. Laski agreed to identify famous persons who might serve on the board of a new group to aid refugees. Szilard then proposed, and began to organize, the Academic Assistance Council (AAC) as a clearinghouse to match refugees with placement offers. And he barraged Beveridge with ideas for coordinating refugee committees around Europe. Szilard had no formal position and little power, preferring to work behind the scenes -- to push others to use their power and authority.¹⁰

"I think it is not for me to represent officially our project," Szilard wrote Beveridge in April, professing a "lack of knowledge and experience of the English way of doing things...."¹¹ Instead he scurried about contacting other scientists and wealthy benefactors in London, Cambridge, Manchester, and Liverpool. It seems likely that Szilard's status as an outsider afforded him special freedom of action that an established Englishman may have lacked.

Szilard's prodding soon paid off, a network of support was patched together, and on 24th May a statement appeared in *The Times* announcing the AAC's creation, endorsed "with forty-one signatures of men of distinction in every branch of science and the arts." The Royal Society offered the Council two small rooms on the top floor of Burlington House in Piccadilly. But before Szilard could settle in he was off to the Continent again, prompting amazement by refugee physicist Hans Bethe, who said, "We were convinced that Szilard could be in two places at the same time."¹²

Dashing back to Switzerland, Szilard asked Esther Simpson to join him at the Council. She eagerly agreed, and began working there in July. Walter Adams, a young instructor from the LSE, soon joined them but almost immediately Adams left for Germany to check on a list of scholars Szilard had compiled.¹³ "Leo was a bird of passage, and considered himself such," Esther Simpson recalled, marveling at the energy and synergy of his actions.¹⁴

In June came news of two more refugees. James Franck, a Nobel laureate in physics, left Göttingen University for Johns Hopkins. And – finally -- Michael Polanyi left Berlin for Manchester. "It appears," Szilard said when he heard about Polanyi, "that Hitler cured his rheumatism."¹⁵

To some, Szilard's movements seemed amazing; to others, conspiratorial. In Cambridge in July 1933, Szilard approached Prof. L.W. Jones, a representative of the Rockefeller Foundation, and named several academics Jones should contact, then questioned him about funds for refugee settlement. Jones noted that Szilard "seemed to know intimately things which are not currently known to others in England." Later that day Szilard followed Jones to London and approached him again. Szilard "appeared to be omnipresent without any official connection to any country," Jones wrote. "Szilard had been in Switzerland, in France and in England and seemed to know everything being undertaken in these countries."

Jones also learned that some English academics were "suspicious" of Szilard's activities as he contacted educators at universities throughout the country.¹⁶ "In spite of being rather tired, I feel very happy in England," Szilard wrote in August, thanks to "the deeper sympathy I feel with the country and the people."¹⁷ Szilard liked the English because of their reserve. A very private and often shy person himself, Szilard enjoyed their sometimes-odd formalities and their academic humor. If Budapest had been his natural home, Berlin his intellectual home, and Vienna his cultural home, then

London was quickly becoming Szilard's spiritual home.

During 1933, Szilard also enlisted aid outside England. He wrote anthropologist Franz Boaz in New York; met with Chaim Weizmann about settling refugees in Palestine; called on the rectors of four Belgian universities; and encouraged American foundations to support the expanding relief effort. Working independently gave Szilard the personal freedom he enjoyed, but also forced him to pay for the hectic travel from his savings, prompting the fear: I "cannot possibly go on with this for very long." Yet his accomplishments made the sacrifice worthwhile. "I can be so useful that I cannot afford to retire into private life," he boasted. In July 1933, Szilard wrote, "I never finish before 10:00 p.m." at the Council because "the secretaries are on vacation, and I am substituting for them. It is pretty exhausting and full of responsibility but also fun."¹⁸

Indeed, Szilard's work to create and run the AAC was useful beyond his dreams. It aided more than 2,500 refugee scholars by the outbreak of war in 1939. "This activity suited my temperament," Szilard later reflected, "for I always found it easier to solve the problems of others than to solve my own problems."¹⁹ At the time he helped found the Council, and throughout his life, Szilard's boundless energy continued to keep alive his

"narrow margin of hope." His is a spirit that will still sustain CARA today, just as it did in the beginning. "A narrow margin of hope."

About the Author

William Lanouette is a writer and public policy analyst who has studied the interaction of science and politics, especially in the history of nuclear weapons and nuclear energy. His doctorate at the LSE examined the use and abuse of scientific information by legislators in the US and UK, a topic he also pursued as a journalist in such publications as *The Atlantic Monthly*, *The Economist*, and *Scientific American*. A staff member for *Newsweek*, *The National Observer*, and *National Journal*, he was also Washington Correspondent for *The Bulletin of the Atomic Scientists*. From 1991 to 2006 he was a Senior Analyst for energy and science issues at the US Government Accountability Office (the investigative agency of the US Congress) in Washington, DC. wlanouette@comcast.net

Notes